PRE-SURVEY OUTLINE BOOKLET FOR SHORE-BASED U.S. NAVY SURFACE SUPPORTED DIVING SYSTEMS



SYSTEM CERTIFICATION AUTHORITY
NAVAL FACILITIES ENGINEERING COMMAND
C/O NFESC DET, CODE 07F
WASHINGTON NAVY YARD, BLDG 218
1435 10th ST. SE SUITE 3000
WASHINGTON, DC 20374-5063

PSOB ADMINISTRATIVE INFORMATION

STATE AND IN STATE	ACTIVITY / COMMAND: CODE: TYPE COMMANDER: ADDRESS:	X X X
MANUFACTURER: X		X
SERIAL NUMBER: X		X
	sor, as defined by NAVSEA 22-521-AA-MAN- X mand / Activity / Organization	_
PSOB Prepared By: X Name, Title and Organization	Signature	X
Sponsor Approval: X Name, Title and Organization	Signature	<u>X</u> Date
NAVFAC SCA Approval: <u>X</u> Name, Title and Organization		X Date

REVISIONS

No.	Prepared By	Date	Approved By	Date	Approved by SCA	Date
X	X	X	X	X	X	X
Y	Y	X Y	Y	X Y	Y	X Y
X	X	X	X	X	X	X

REVISING THE PRE-SURVEY OUTLINE BOOKLET

When the tenure of certification nears expiration, and a continuance of certification is requested, Selected pages of the PSOB will normally require revisions. These revisions will ensure that the PSOB reflects the latest information pertaining to the system. The pages and times normally requiring revision are as follows:

- 1. Administration Information Complete Revision Block.
- 2. Record of Changes Enter all changes made.
- 3. Page 8 Inspections and Tests (Current Period):
 - Item VII A. Provide Status.
 - B. Provide Date and Results.
 - C. Provide Date and Results.
 - D. Provide Date and Results.
 - E. Provide Latest Dates.
 - F. This item will require revision only if permanently installed hoses have been changed.
- 4. Pages 10 & 11 Operation and Maintenance Procedures:
 - Item VIII A. If OPs / EPs have been changed since approval by MAVFAC SCA enter the Serial Number and date of letter authorizing change.
 - B. List any outstanding feedbacks remaining open.
 - C. Enter appropriate "quarter after overhaul number".
 - D. Enter total number of RECs issued during the last on-site visit.
- 5. Pages 14 &15 On-Site Survey These pages will be revised by the SCA during the On-Site Survey.
- 6. Page 16 Operational Demonstration This page would require revision only if the diving command wishes to increase the maximum certified depth limit of the system.

RECORD OF CHANGES

REV. NO.	DATE	PAGE NO.	ITEMS CHANGED (LTR)	ENTERED BY
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X

	STATUS		
REQUIREMENT	RCVD #	APVD #	RESPONSE *
A. Identify the types of standard Navy surface supported diving equipment employed as listed in NAVSEAINST 1056.2.			A. X
B. Identify any types of surface supported diving equipment used that are not listed in NAVSEAINST 1056.2.			В. Х
NOTE: Authorization to use non-approved diving equipment must be obtained by CNO waiver. See OPNAVINST 3150.27 for additional information.			

[#] For SCA use only: Date and Initial
* Use Continuation Sheets as necessary

ITEM II: OPERATING PARAMETERS						
	STATUS					
REQUIREMENT	RCVD #	APVD #	RESPONSE *			
A. Describe the most demanding diving operations operations contemplated for each type of equipment used. Include number of divers to be supported concurrently with each type (include standby divers), maximum depth of dives, and maximum bottom time requirements.			A. X			
B. Provide air/gas required and available for each equipment listed, including air/gas for decompression. Provide pressure requirements and actual manifold pessure available for each equipment listed. Provide calculations for both primary and secondary systems.			B. <i>X</i>			
NOTE: Include here a summary only of air/gas required and available. Supporting calculaations should be provided in Appendix A. Air/gas available must be equal to or greater than air/gas required for both quantity (volume) and pressure.						

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ITEM III: DIVER"S AIR SUPPLY SYSTEM	ITEM III: DIVER"S AIR SUPPLY SYSTEM						
	STATUS						
REQUIREMENT	RCVD #	APVD #	RESPONSE *				
A. Provide drawing number of schematic diagram of systems that furnish air to the divers, showing all compressed air sources, controls, and processing equipment. Indicate operating parameters such as pressure and volume for appropriate components. Include date drawing was validated and list NAVFAC approval information.			A. X				
B. Provide drawing number of detailed plans of air piping covered in schematic diagram.			B. X				
C. Provide air compressor identification and characteristics.			C. X				
D. Provide compressed air processing equipment identification and characteristics. (Filters, separators, regulator make and model numbers, etc.)			D. X				

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ITEM III: RECOMPRESSION CHAMBER AIR SUPPLY SYSTEM (Continued)						
	STATUS					
REQUIREMENT	RCVD #	APVD #	RESPONSE *			
E. Provide air storage vessel identification and characteristics (ASME, Mil.Spec, etc.)			E. <i>X</i>			
F. Identify diver's primary air supply and describe procedures for shifting to secondary air supply.			F. <i>X</i>			
G. Identify demands placed on compressed air systems other than supplying divers. Will this demand be used during diving operations? If so, show that this demand will not degrade system performance or cleanliness.			G. X			

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ITEM IV: DIVER'S MIXED GAS/OXYGEN SUPPLY SYSTEM						
	STATUS		STATUS			
REQUIREMENT	RCVD #	APVD #	RESPONSE *			
A. Provide schematic diagram of system(s) that furnish divers' mixed gas/oxygen, showing all storage flasks, controls, and processing equipment. List NAVSEA approval information.			A. <i>X</i>			
B. Provide detailed plans of mixed gas/oxygen system(s) covered in the schematic diagram. Identify materials and means of joining. Identify drawing numbers and revisions.			B. <i>X</i>			
C. Provide mixed gas/oxygen transfer pump identification(s) and characteristics.			C. X			
D. Provide mixed gas/oxygen processing equipment identification and characteristics (filters, gas mixing console, etc.)			D. <i>X</i>			
E. Identify divers' normal mixed gas/oxygen supply and describe procedures for supplying "emergency air" to divers.			E. X			

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	STATUS		
REQUIREMENT	RCVD #	APVD #	RESPONSE *
Identify demands placed on mixed gas/oxygen systems other than supplying divers.			F. X

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ITEM V: ELECTRICAL SYSTEM SUPPORTING DIVING OPERATIONS						
	STATUS					
REQUIREMENT	RCVD #	APVD #	RESPONSE *			
A. Provide an electrical schematic diagram of circuits that support diver and diver handling system communications and NAVSEA approval information.			A. X			
B. Describe all lighting arrangements for night diving operations (include underwater and deck lighting).			B. X			

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ITEM VI: DIVER HANDLING SYSTEM						
	STATUS					
REQUIREMENT	RCVD #	APVD #			RESPONSE *	
A. Describe diver handling system.			A.	X		
B. Provide equipment identification and characteristics (include type/size of lifting cables).			B.	X		
C. Provide working loads.			C.	X		
D. Identify emergency diver handling modes.			D.	X		

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ITEM VII: INSPECTIONS AND TESTS (Current Period)						
	STATUS					
REQUIREMENT	RCVD #	APVD #	RESPONSE *			
A. Provide status report of known material deficiencies for diver equipment and support systems.			A. X			
B. Report date and results of last handling system load and brake inspection.			B. _X			
C. Report date and last pressure/leak integrity test of air, mixed gas, and oxygen piping systems.			C. X			
D. Provide divers' air purity test requirements schedule and summary of recent history. Provide date and results of latest air purity tests.			D. X			
E. Report latest gauge calibration dates.			E. X			
F. Provide criteria for determining necessity for cleaning air, mixed gas, and oxygen systems and procedures for such cleaning.			F. X			
G. Report the working, test, and burst pressure data for all flexible hoses in the system.			G. <i>X</i>			

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ITEM VII: INSPECTIONS AND TESTS (Current Period) (Continued)							
	STATUS						
REQUIREMENT	RCVD # APVD #		RESPONSE *				
H. For initial construction systems or redesigned systems being re-certified upon completion of major overhaul:			H. X				
 Provide results of operational flow tests conducted in accordance with NAVFAC approved test procedures. 			1. X				
2. Provide results of operational pressure tests conducted in accordance with NAVFAC approved test procedures.			2. X				
I. Provide for all diving hoses:			I. X				
 Military specification or manufacturer and manufacturer's hose I.D. number Date of manufacture Length in feet Internal diameter Last hydrostatic test date Hydrostatic test pressure Hydrostatic burst test—date and pressure Results of applicable visual inspections and coupling pull tests conducted. NOTE: If this information is kept in a command hose log, simply note "hose data maintained in command hose log and will be available for review 							
by SCA during onsite survey"—otherwise, provide the information for each hose in the PSOB.							

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ITEM VIII: OPERATIONS AND MAINTENANCE I	NSTRUCTIC	NS	
	STATUS		
REQUIREMENT	RCVD #	APVD #	RESPONSE *
 A. Provide operating and emergency procedures for the overall diving system and indicate that they have been: 1. Validated by the diving staff. 2. Approved by NAVFAC. 			A. 1. Date Validated: X Validated By: X 2. NAVFAC Approval Letter Serial Number: X NAVFAC Approval Letter Date: X
 B. Provide PMS instructions for the overall diving system. Ensure MIPs and MRCs are provided for: 1. Preventive maintenance procedures 2. Corrective maintenance procedures C. List all PMS-related deficiencies and all PMS feedbacks submitted concerning the diving equipment/support systems. 			B. 1. X 2. X C. X
NOTE: These deficiencies will include all MRCs not performed as required or as scheduled. D. Provide reentry control procedures (RECs) and a summary of all RECs issued since last certification.			D. X
E. Provide plans for the periodic tests, maintenance, and inspections of the diver equipment and support systems in accordance with U.S. Navy Diving Manual, Volume 1, Air Diving (NAVSEA 0994-LP-001-9010); and U.S. Navy Diving Manual, Volume 2, Mixed Gas Diving (NAVSEA 0994-LP-001-0920).			E. X

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REQUIREMENT	RCVD #	APVD #	RESPONSE *

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ITEM IX: ON-SITE SURVEY (Note: Request Survey via Sponsor to NAVFAC)						
STATUS						
REQUIREMENT	INSP* APVD #		NOTES			
Note: This item is performed by the System Certification Authority.						
A. Inspection of material condition of diver equipment and support systems.			A. <i>X</i>			
 B. Verification of accessibility to vital equipment: 1. Vital valves, components, and gages 2. Communications equipment 3. Electrical power 			B. X			
C. Verification of conformance to "as built" drawings.			C. X			
D. Verification of material identification and control (i.e., records versus hardware).			D. X			
E. Review of reentry control records.			E. X			
F. Review of fabrication, construction, and assembly procedures/records.			F. <i>X</i>			
G. For initial construction or refurbished systems review of test plans/procedures/records for fabrication, construction, and assembly.			G. X			

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		STATUS		
TES	INSP* APVD#		REQUIREMENT	
	H. <i>X</i>			H. Review for proof and performance test procedures/records (i.e., leak tests, hydrostatic tests, operational tests, etc.).
	I. X			Review of system cleaning procedures and records.

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ITEM X: OPERATIONAL DEMONSTRATION DIVE (For SCA Use Only)						
	STATUS					
REQUIREMENT	INSP*	APVD #	NOTES			
A. Name of SCA or designated representative.			A. <i>X</i>			
B. Date of demonstration dives.			B. X			
C. Type of diving equipment used.			C. _X			
D. Names of diving officer, diving supervisor and divers, including level of qualification.			D. _X			
E. Maximum depth achieved1. Air dive2. HEOX dive (if applicable)			E. X 1. X 2. X			
F. How was the depth verified?			F. X			
G. Total bottom time			G. _X			
H. Manifold pressure during dive 1. Maximum 2. Minimum			H. <i>X</i> 1. <i>X</i> 2. <i>X</i>			
I. Weather/sea state			I. X			
J. Type of moor			J. X			
K. General comments			K. X			

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This recompression chamber system has been found to be functional and postdive inspection verifies that no condition exists or has developed as a result of this operational demonstration which could be dangerous or impair the satisfactory operation of this system.

APPENDIX A:	SUPPORTING AIR / OXYGEN CALCULATIONS

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